

Alg2s_Ch3_Day2.pdf - Adobe Acrobat Pro

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Before you go, write these down as the first two problems of your homework and answer them to the best of your ability:

1. What is different between the solutions for a linear equation versus the solutions of a linear inequality?
2. Compare and contrast the solutions for a linear inequality against a system with two or more linear inequalities.

① Linear equation - on the line
Linear inequality - anything that meets the constraint (above or below)

② One compared to two or more

one part that is shared

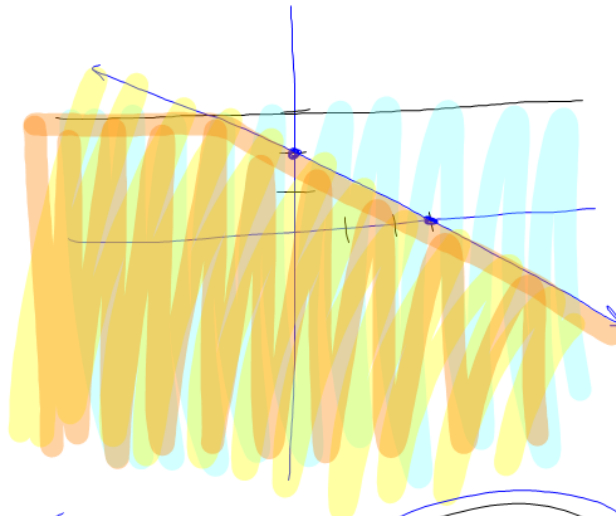
Graph

$$\begin{cases} 2x + 3y \leq 6 \longrightarrow 2(0) + 3y \leq 6 \\ \longrightarrow y \leq 2 \end{cases}$$

$$2x + 3(0) \leq 6$$

$$\frac{2x}{2} \leq \frac{6}{2}$$

$$x \leq 3$$



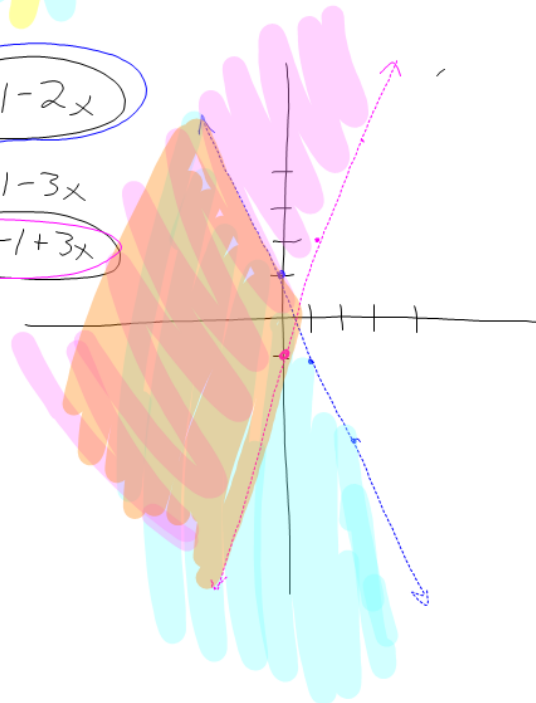
$$\begin{cases} 2x + y < 1 \longrightarrow y < 1 - 2x \\ 3x - y < 1 \longrightarrow -y < 1 - 3x \\ y > -1 + 3x \end{cases}$$

$$2(0) + y < 1$$

$$y < 1$$

$$\frac{2x + 0 < 1}{2}$$

$$x < \frac{1}{2}$$



$$1P + 0.7I \leq 110 \quad \text{dough}$$

$$P + I \leq 140 \quad \text{oven space}$$

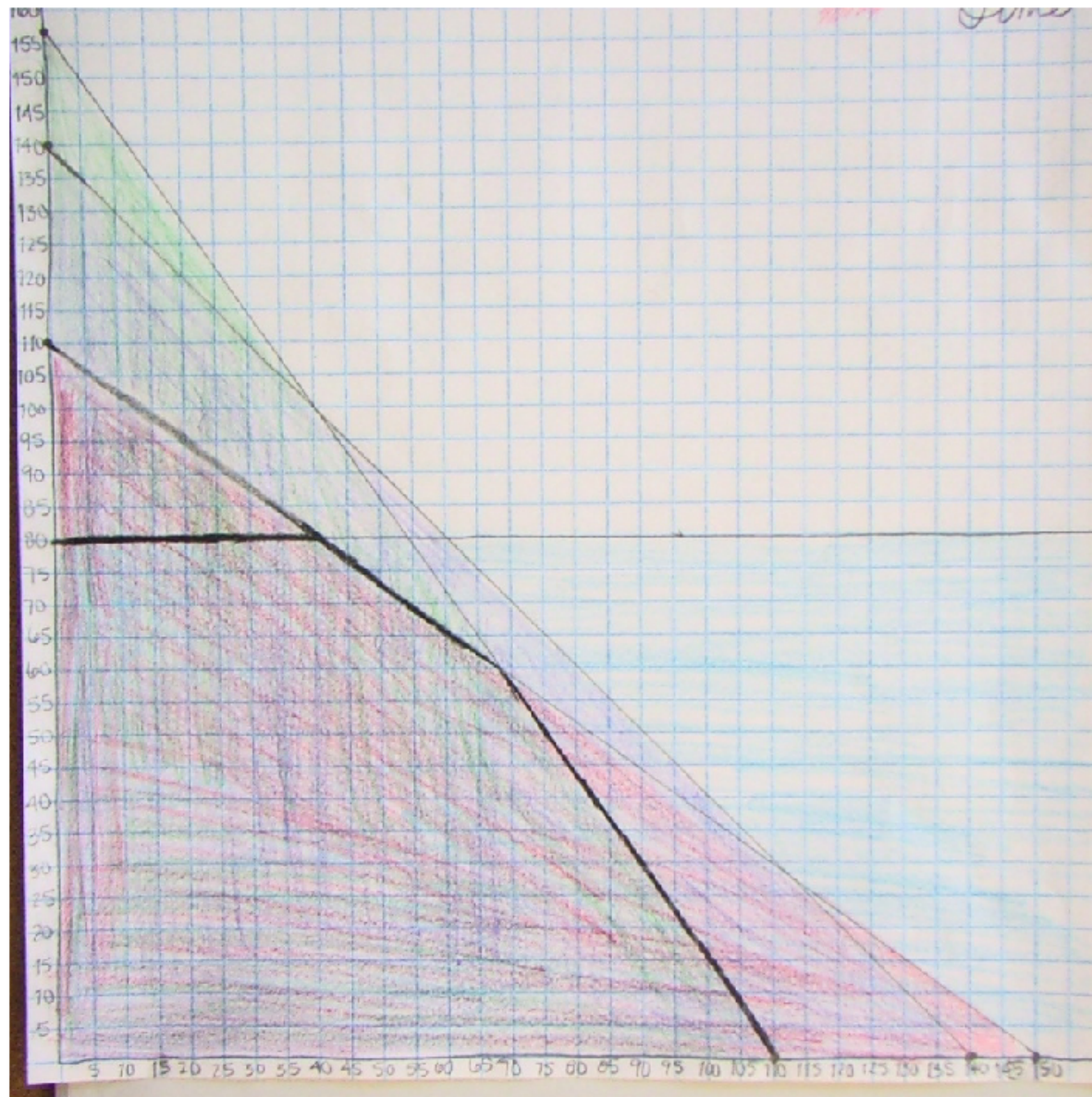
$$0.1P + 0.15I \leq 15 \quad \text{Prep time}$$

$$0.4I \leq 32 \quad \text{Icing}$$

Iced

Plain

Iced



Plain

• Find the feasible region by graphing Homework

$$\textcircled{1} \begin{cases} 2x + 3y \leq 6 \\ x - y \geq 1 \\ y \geq 0 \end{cases}$$

$$\textcircled{2} \begin{cases} 4x + 5y > 15 \\ \frac{3}{2}x + \frac{3}{4}y \leq 15 \\ y > 0 \\ x > 0 \end{cases}$$

• Half sheet #1 (see next page)

Dietary Requirement

Maria is planning a snack of graham crackers and blueberry yogurt. Because she is concerned about nutrition, she wants to make sure that she eats less than 700 calories and not more than 20 g of fat with this snack. She would like at least 17 g of protein and at least 30% of the daily requirement of iron. The information of each snack is below:

	Serving	Calories	Fat	Protein	Iron
Graham Crackers	1 cracker	60	2g	2g	6%
Blueberry Yogurt	4.5 oz	130	2g	2g	1%

1. Create an inequality for each constraint.
2. Create a feasible region.
3. If Maria was in a hurry and wanted to eat the least amount of food, how much should she eat of each serving and still meet the requirements?
4. If Maria had a lot of time and wanted to eat the most amount of food, how much should she eat of each serving and still meet the requirements?